

METHODS OF AND APPARATUS FOR MANUFACTURING BALL GRID ARRAY  
SEMICONDUCTOR DEVICE PACKAGES

ABSTRACT OF THE DISCLOSURE

A method for manufacturing a ball grid array semiconductor package includes the step of providing a substrate (103) having a first surface (103b) and a second surface (103a), in which the first surface (103b) or the second surface (103a) comprises a conductor pattern (104). The method also includes the steps of providing a plurality of conductive bump contact areas (not shown) on the first surface (103b) of the substrate (103), and substantially aligning each of the conductive bump contact areas (not shown) with at least one conductive bump (107). The method further includes the step of disposing at least one of the conductor bumps (107) on each of the conductive bump contact areas (not shown). Moreover, the step of substantially aligning the conductive bump contact areas (not shown) with at least one of the conductive bumps (107) comprises the step of vibrating at least a portion of the substrate (103), which substantially aligns each of the conductive bump contact areas (not shown) with at least one of the conductive bumps (107).